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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,649	05/24/2000	William C. Treurniet	1245.007	4450
23405	7590	04/23/2004	EXAMINER	
HESLIN ROTHENBERG FARLEY & MESITI PC			TRAN, CON P	
5 COLUMBIA CIRCLE			ART UNIT	
ALBANY, NY 12203			PAPER NUMBER	

2644

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/577,649

Applicant(s)

TREURNIET ET AL.

Examiner

Con P. Tran

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 1-16** are rejected under 35 U.S.C. 102(a) as being anticipated by International Telecommunication Union- Radiocommunication Sector BS 1387-1 (hereinafter, "ITU-R BS 1387-1").

Regarding **claim 9**, ITU-R BS 1387-1 teaches a system for determining an objective audio quality measurement of a target audio signal (see Fig. 1, page 7, paragraph 3), comprising:

a peripheral ear processor (peripheral ear model, Figs. 8 and 9) for processing a reference audio signal (i.e., reference) and a target audio signal (i.e., test) to provide a reference basilar sensation signal and a target basilar sensation signal, respectively (simulate the dispersion of energy along the basilar membrane, stimulus, page 30, paragraphs 1, 2, and 4);

a comparator for comparing the reference basilar sensation signal and the target basilar sensation signal to determine a basilar degradation signal (p. 30, pars. 1, 2, and 4); and

a cognitive processor (Fig. 4, page 18) for processing the basilar degradation signal to determine at least one cognitive model component for providing an objective perceptual quality rating (page 30, paragraphs 3 and 4).

Regarding **claim 10**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the at least one cognitive model component (Fig. 4, page 18) is selected from an average distortion level (Average distorted block, page 54, par. 2), maximum distortion level, average reference level, reference level at maximum distortion, coefficient of variation of distortion, and correlation between reference and distortion patterns.

Regarding **claim 11**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the peripheral ear processor further provides a harmonic structure from an error spectrum obtained through a comparison of the reference and target audio signals (page 64, paragraph 3).

Regarding **claim 12**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the cognitive processor includes a multi-layer neural network (input layer, output layer, and hidden layer; page 68, paragraph 1).

Regarding **claim 13**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the cognitive processor includes pre-processing means for determining effects of at least one of perceptual inertia, perceptual asymmetry (asymmetric sigmoid; page 68, paragraph 1) and adaptive threshold.

Regarding **claim 14**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the peripheral ear processor includes a recursive filter (page 54, paragraph 1).

Regarding **claim 15**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the cognitive processor includes weighting means (weighting function, page 35, paragraph 1) for adjacent frequency ranges.

Regarding **claim 16**, ITU-R BS 1387-1 teaches a system according to claim 9, wherein the cognitive processor includes adjustment means for adjusting the basilar degradation signal according to a variance of auditory filter envelope modulation rates of the reference audio signal (Table 4, page 16; page 19, paragraph 4).

**Regarding claims 1-8**, these claims merely reflect the process to the apparatus claim of claims 9-16 and are therefore rejected for the same reasons.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Con P. Tran, whose telephone number is (703) 305-2341. The examiner can normally be reached on M - F (8:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office at telephone number (703) 306-0377.

cpt *CPJ*  
April 16, 2004

*[Signature]*  
LEONARD M. GUYEY  
PRIMARY EXAMINER